



Pathfinder composite liquid oxygen tank completes initial proof tests

Marshall release

A joint effort between NASA and Lockheed Martin has resulted in the development and successful initial testing of the first sub-scale cryogenic tank built of a composite material that is compatible with liquid oxygen. Lockheed Martin designed and built the composite tank, and NASA is testing it at the Marshall Center.

The tank has successfully completed the initial cycles of cryogenic, or very low temperature, proof testing in liquid oxygen. In testing, the tank is enduring thermal and pressure environments that simulate flight conditions a liquid oxygen tank would experience on a space launch vehicle. The tank also will undergo life cycle testing at Marshall Center to

demonstrate mission life capabilities.

“This marks a real advance in space technology,” said Michael Phipps, NASA project manager for this material characteristics development unit. “No approved standards for composite pressure vessels exist; there has not been enough information on them to write standards. So the technical data we are getting from this effort is very valuable.”

Using state-of-the-art cryogenic composite tank analysis, fabrication, and inspection techniques, the Lockheed Martin/NASA team designed and constructed the tank at both the Marshall Center and the NASA Michoud Assembly Facility in New Orleans. The composite

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Mission extended five years

Chandra X-ray Observatory marks second anniversary

by Sherrie Super

NASA's Chandra X-ray Observatory, one of the world's most powerful tools to better understand the structure and evolution of the universe, marks its two-year anniversary with a series of discoveries that transcend space and time.

In recent months, Chandra has found the most distant X-ray cluster of galaxies, captured the deepest X-ray images ever recorded and discovered a new size of black hole.

“It seems like yesterday we launched Chandra and awaited with great anticipation for what it would tell us about the universe,” said Chandra project scientist Dr. Martin Weisskopf of the Marshall Center.

“It has lived up to all our hopes, giving us front-row seats to phenomena light years away — exotic celestial objects, matter falling into black holes and stellar explosions.”

Based on the observatory's outstanding results to-date, a decision to extend Chandra's mission to a 10-year mission compared to the original five-year mission was made by NASA Headquarters in Washington, D.C. The extended mission will support five additional years of day-to-day operations such as controlling the spacecraft, observing celestial targets, processing the data, and passing it on to scientists around the globe. It also includes continuing the administration



Composite Image by Brooke Burns, NASA/Marshall Space Flight Center

See Chandra on page 2

SPACEHAB VP Carolyn Griner wins aerospace award

SPACEHAB release

Carolyn Griner, vice president and general manager of the Huntsville Operations of SPACEHAB, Inc., has received a 2001 Lifetime Achievement Award from Women in Aerospace (WIA).

Griner joined SPACEHAB, a provider of commercial space services, in March to establish the company's Huntsville office.

Retired from a 36-year career with NASA, she brings



Griner

a wealth of experience to the SPACEHAB team. At the time of her retirement, Griner was deputy director of the Marshall Center.

"I have worked with Carolyn for many years and have found her to be of the highest caliber of leaders contributing to our nation's space program," said Roy Estess, Johnson Space Center acting director, who nomi-

nated Griner for the award.

"We are pleased and privileged to have Carolyn on our team," said Dr. Shelley A. Harrison, SPACEHAB chairman and chief executive officer. "I'm confident that our Huntsville office will prosper with her in charge."

Women In Aerospace's annual Lifetime Achievement Award is granted for achievements over a career in aerospace and service to women in the field. Griner has served as a role model for women as Marshall's first female chief engineer; first female deputy director; first female "technical" member of the Senior Executive Service at NASA; leader of an all-female Space Shuttle flight simulation crew in 1971; and one of a group of female astronaut finalists interviewed by NASA for flight on the first Space Shuttle missions. She participated in formal and informal mentoring initiatives at NASA and continues that mentoring today. She is a strong advocate of woman-owned and other small businesses.

Women In Aerospace is a Washington, D.C.-based organization dedicated to expanding women's opportunities for leadership and increasing their visibility in the aerospace community. Any person who supports Women In Aerospace's mission and goals is eligible for membership.

Previous awardees include U.S. Sen. Barbara Mikulski of Maryland; U.S. Rep. Constance Morella of Maryland, former U.S. Air Force Secretary Sheila Widnall, and NASA astronauts Eileen Collins and Ellen Ochoa.

Chandra

Continued from page 1

of hundreds of science grants for astronomers to analyze their data and publish their results.

"Adding five more years of operation to Chandra's mission will provide double the opportunity for amazing discoveries," said Weisskopf.

Among the noteworthy Chandra contributions in the last two years is the discovery of the most distant X-ray cluster of galaxies. Approximately 10 billion light-years from Earth, the cluster 3C294 is 40 percent farther than the next distant X-ray galaxy cluster. Important for understanding how the universe evolved, this discovery is helping astronomers see what the universe was like when it was only about one-fifth of its current age.

Offering proof that black holes once ruled the universe, Chandra has also provided the deepest X-ray images ever recorded. Known as the Chandra Deep Fields, the images show an early universe 12 billion years ago that was teeming with black holes. These X-ray sources — the faintest ever detected — are giving astronomers the opportunity to look back to a time when the universe was young, shedding insight into the early structure of galaxies.

For additional insight into black holes, Chandra offers new evidence that the universe is home to a type of black hole that's not too large and not too small. This discovery — a mid-sized black hole in the M82 galaxy — may represent the missing link between its flyweight relatives formed by the stellar collapse of single, massive stars and the super-heavyweight variety found at the center of most galaxies.

These recent discoveries follow numerous groundbreaking findings made during Chandra's first year. Those initial highlights include Chandra's discovery of a "cool" black hole at the heart of the Andromeda Galaxy and an X-ray ring around the Crab Nebula.

"Over the last two years, Chandra has performed its mission superbly," said Chandra Program Manager Tony Lavoie at the Marshall Center. "Not only is the observatory operating smoothly and efficiently, providing the highest quality X-ray images ever made, but the astronomical community is ecstatic with the results.

"The teamwork on the program has been outstanding, with a strong focus to satisfy the customer and streamline wherever possible. I'm proud to be associated with the program" said Lavoie, "and look forward to many more years of producing data that yields science breakthroughs seemingly from every glance at our universe."

For more information on Chandra, visit the Web at:

<http://chandra.nasa.gov>

The writer, employed by ASRI, supports the Media Relations Department.

Marshall engineers test solar cells for MESSENGER

by Whitney Hubbs

Engineers at the Marshall Center have been working with The Johns Hopkins University Applied Physics Laboratory by testing solar cells that will enter Mercury's orbit in 2009 as part of the MESSENGER mission.

The MErcury Surface, Space Environment, Geochemistry and Ranging mission or MESSENGER, is a scientific investigation of the planet Mercury. Mercury, Venus, Earth and Mars are terrestrial, rocky, planets. Understanding Mercury is fundamental to understanding our own Earth, how it was formed, and how it interacts with the Sun. Mercury's solar environment is approximately 16 times more severe than Earth's since its orbit is 1/4 astronomical unit (Earth's distance from the Sun is 1 astronomical unit).

These solar cells will have to endure intense heat and ultraviolet (UV) radiation. That is why it is necessary to test the solar cells at high temperatures and intense UV. Engineers with Marshall's Space Environmental Effects Team have assembled a test chamber that exposes the cells to intense UV radiation while the cells are heated to 150 degrees Celsius and the entire process takes place under vacuum. This test has logged slightly more than 3,000 hours and is scheduled to terminate after 4,000 hours. Dr. Jay Jenkins travels from APL to Marshall about every month to perform the short circuit current measurements on the solar cells. This is the prime indicator of how much damage has been done to the cell by the high temperature and intense UV light.

"The test chamber developed for MESSENGER has broadened the capabilities of the Environmental Effects Group," said Dr. David Edwards, Space Environmental Effects team lead. "Soon we will be testing materials baselined for spacecraft bound for L1, and we're ready."

There are six key questions that MESSENGER will answer about Mercury. We know that Mercury is approximately twice as dense as Earth. This implies that 65 percent of the planet is a metal-rich core. Mercury is the closest planet to the Sun, but it has polar caps. The unusual material at Mercury's poles will be studied.

MESSENGER will tell us if the polar caps are made of ice or a different material. With Mariner 10, about 45 percent of the

planet was photographed. There are plains that might be volcanic, and high cliffs. MESSENGER will produce the first global maps of Mercury. Is Mercury's core hot and partly liquid like Earth's or has it frozen solid? MESSENGER should tell us if its core is still frozen or still partly liquid.

There will be two flybys of the planet to map its surface and define the atmosphere and magnetic fields. The magnetic field is very dynamic and constantly changing in response to the Sun. The atmosphere on Mercury is very thin compared to Venus, Earth and Mars.

Solar cells are used to power the instrumentation that will be studying Mercury. The instruments chosen are needed to answer the mission's key questions. These instruments are:

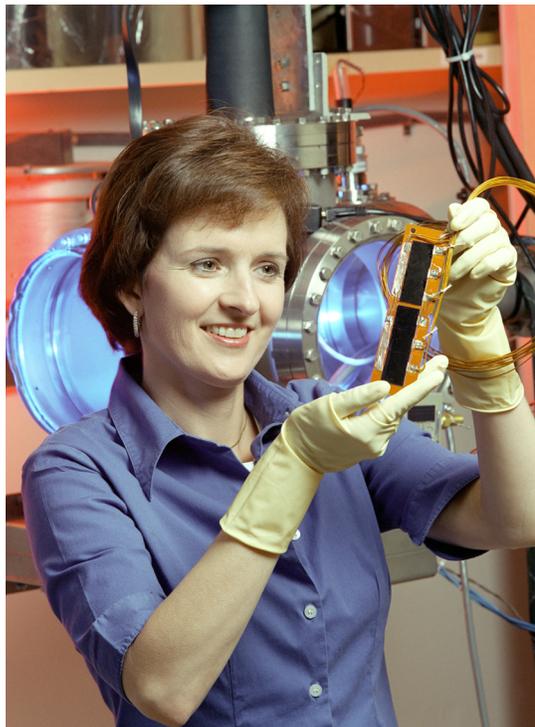
- Mercury Dual Imaging System (MDIS): Maps landforms, surface spectral variations, and topography.
- Gamma-Ray and Neutron Spectrometer (GRNS): Used to map elemental abundance's in crustal materials. Neutron mode provides sensitivity to hydrogen in ice at the poles.
- Magnetometer (MAG): Maps out the detailed structure and dynamics of Mercury's magnetic field.
- Mercury Laser Altimeter (MLA): Measures Mercury's slight wobble due to the planet's liberation.
- Atmospheric and Surface Composition Spectrometer (ASCS): Ultraviolet-visible spectrometer measures abundance of atmospheric gases. Visible-infrared spectrometer detects minerals in surface materials.
- Energetic Particle and Plasma Spectrometer (EPPS): Measures charged particles within and surrounding Mercury's magnetosphere.

particles within and surrounding Mercury's magnetosphere.

- X-ray Spectrometer (XRS): Will aid in the testing of Mercury's high density.
- Radio Science (RS): Uses the Doppler effect to measure Mercury's mass distribution, including spatial differences in crustal thickness.

MESSENGER will provide numerous technology transfer benefits in the areas of robotics, medicine, oil-exploration, industrial laboratory instrumentation, and aircraft communications. It also will benefit education and public outreach programs as four-to-five outreach programs are scheduled to produce exhibits, a documentary, books, educational modules and teacher training.

The writer is a materials engineer in the Materials Processes and Manufacturing Department.



Whitney Hubbs inspects one of the solar cells being tested at the Marshall Center.

Safety Bowl competition begins Wednesday

from Marshall's Safety Office

The 2001 Safety Bowl competition — sponsored by Marshall's Safety and Health Action Team — gets under way with the "Sweet 16" competitions Wednesday in Morris Auditorium.

Second-round action in the Elite 8 competition will be Oct. 10 in Morris. Safety Bowl 2001 culminates with the Final 4 and championship matches on Oct. 12 — Marshall's Safety Day — in a location to be determined. The team that

wins the final match will take home the Safety Bowl trophy.

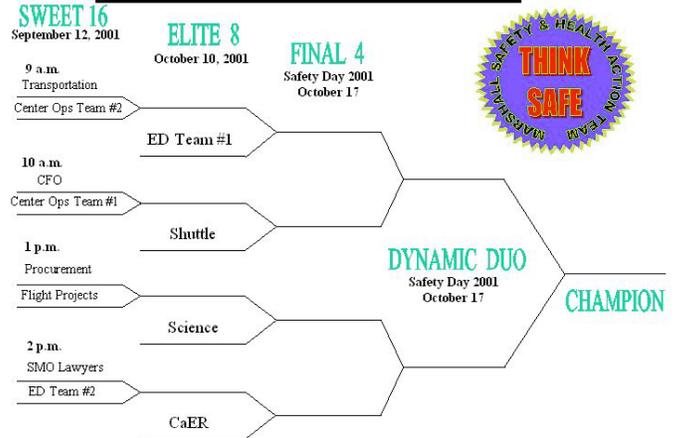
The Engineering Directorate's Elite team was last year's winner.

The 2001 Safety Bowl, similar to a "college bowl," is a competition between 12 teams from Marshall directorates and offices, both contractor and civil service. Each has six people, with four playing in each competition.

The Safety Bowl competition is based upon each team's ability to quickly answer safety questions, published in advance in the Marshall Star and on Inside Marshall, and archived on the Marshall Safety and Health Action Team Web page. These questions will address topics like home, work place, VPP policy and procedures, driving, recreational, fire, water, and weather safety, along with health and the environment.

This year, to avoid contestants memo-rizing and answering questions after only a

2001 MSFC SAFETY BOWL



Donna Jackson of the Accounting Operations Office cheers for her team.

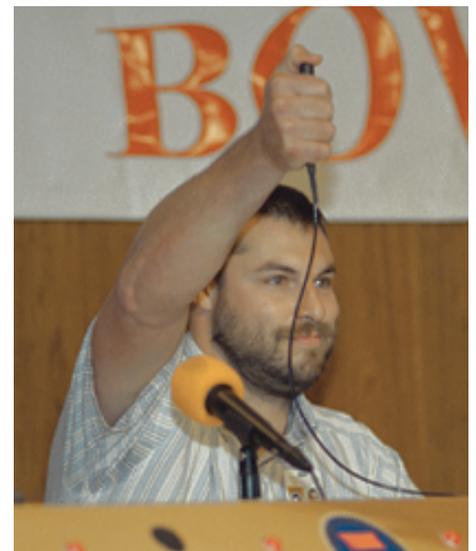
few words, most of the published toss-up questions will be reworded for the competitions. They will not be made tricky or their meaning changed, but will be altered so teams will listen carefully. For example, published true/false questions may be reworded to have a choice of a-b-c-d answers. Teams can still buzz in with an answer at any time during the reading of the questions, but they should listen to the whole question to be sure they choose the correct answer.

Because 12 teams are competing this year instead of 16, four were randomly chosen and given a "bye," which means they do not have to compete in the first round of competitions.



File photos

The Engineering Directorate's Elite team won last year's Safety Bowl. From left are, front row: Linda Brewster, Tenina Beli, Louise Semmel, Amelia Gillis, Johnny Maroney and John Jennings. Back row: Astronauts, Bill Kilpatrick and Jim Kennedy.



Noah Rhys of the Propulsion Research Center rings in with an answer.

Why do we want a Star?

from Marshall's Safety Office

Axel Roth, associate director for policy and review at Marshall, chairs the Voluntary Protection Program (VPP) Steering Committee. During the committee meeting Aug. 17, Roth challenged members to answer the question, "Why do we want a VPP Star?"

NASA Administrator Dan Goldin has set the goal for all centers to qualify for VPP participation, under the Agency Safety Initiative — but that's not why we want the Star for ourselves.

The VPP Steering Committee identified these reasons:

- The Marshall community never stopped working to improve our Safety, Health and Environmental Program. We want to see the VPP Star awarded, as public recognition of our efforts and accomplishments.

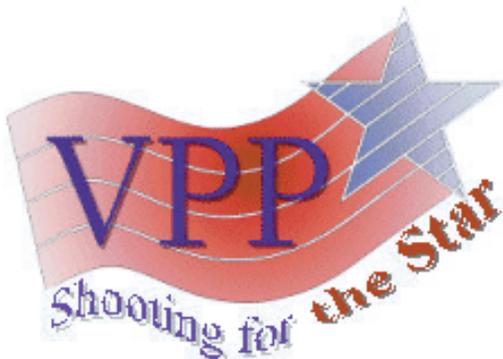
- Only programs with the best worker protection are selected to participate in the Voluntary Protection Program. Safety is our No. 1 core value, and we believe we can earn a Star rating.

- Employers with the VPP Star set the national standard of excellence in safety and health programs. We believe the Marshall community belongs at the top.

- Every improvement we make in our Safety, Health and Environmental Program represents several co-workers who avoid a work-related injury or illness. We are dedicated to ensuring that each of us is safe and healthy as we leave work each day.

- OSHA chooses companies with innovative safety programs to participate as VPP Star sites. The Marshall community has the knowledge, skill and ability to reach and stay on the leading edge of worker protection systems and technology.

- If we commit ourselves to full teamwork in striving to achieve our Safety, Health and Environmental Program goals, no other center will be able to surpass our accomplishments. Marshall deserves to be No. 1 in worker protection.



Marshall Center photo

Engineers at the Marshall Center prepare a composite liquid oxygen tank for testing. The tank was designed and built by Lockheed Martin.

Composite tank

Continued from page 1

tank is approximately nine feet (2.7 meters) in length and four feet (1.2 meters) in diameter and weighs less than 500 pounds (225 kilograms), which represents an 18 percent weight savings over a metal tank of similar construction.

Composites are seen as one of the key components in the drive by NASA and the aerospace industry to decrease the weight of future launch vehicles as a means of reducing the cost of launching payloads into orbit from the current \$10,000 per pound to \$1,000 per pound.

That is one of the goals of NASA's Second Generation Reusable Launch Vehicle (RLV) program, a research and technology development effort that also aims to substantially improve safety and reliability. The Marshall Center manages that program for NASA.

NASA at the Marshall Center and at the White Sands Test Facility in New Mexico has worked together with Lockheed Martin since 1997 to develop the approach and test methods for demonstrating composite liquid oxygen tanks. NASA and Lockheed Martin tested the material extensively following a building-block approach. This approach began with coupon testing, progressing to panels, then to specific tank type interfaces and joints, scaling up to small bottles, and finally to this sub-scale tank.

For more information about NASA's Second Generation RLV program, go to:

www.slinews.com and www.spacetransportation.com

Obituary

Rea, John L., 91, of Huntsville, died Aug. 9. He retired from Marshall in 1974 where he worked as an aerospace engineering technician.

Two serve on Madison City School Board

Education Programs Dept. employees go beyond call of duty

by Debra Valine

The children are heading back to school in Northern Alabama. The Madison City School Board — which includes two Marshall employees — has been working throughout the summer in preparation for their arrival.

Dr. Shelia Nash-Stevenson, Marshall's university affairs officer and higher education team lead, and Julie Mills, a university relations specialist employed by Ai Signal Research Inc., are two of five members on the Madison City School Board. Both work in Marshall's Education Programs Department.

Nash-Stevenson, a native of Hillsboro, Ala., has been a board member since its inception in 1997. She began her career at the Marshall Center in 1989 as an engineer, and moved to the Education Programs Department in April 2000 because she wanted to work more directly with people and education outreach.

Mills, who coordinates undergraduate programs, is fairly new to both the Marshall Center and Madison. Her family moved to Madison last year from southern Louisiana, where she taught elementary school. She started working at Marshall last December.

Both have a vested interest in the school system. Each has two children attending Madison City schools.

"I applied for the position on the school board," said Mills, who was notified in July that she had been unanimously appointed to the board. "I was one of five finalists of about 15 applicants. I consider it an honor to serve on the board."

Both Nash-Stevenson and Mills bring years of education experience to the board and are members of the Alabama Association of School Boards. Their duties on the board include managing the budget and school policies, handling personnel placements, book adoptions, and handling requests for equipment and facilities. Nash-Stevenson also chairs the public relations committee, works on the finance



Photo by Terry Leibold, NASA/Marshall Space Flight Center

Dr. Shelia Nash-Stevenson, left, and Julie Mills, both of the Education Programs Department at Marshall, review a book about the Undergraduate Student Research Program.

committee, calendar committee, and safe school task force.

Nash-Stevenson, while on a NASA Fellowship, taught physics at Alabama A&M University. Mills, a reading specialist, has taught elementary school for more than 18 years in five different school systems in Louisiana. She is certified to teach in both Louisiana and Alabama.

While teaching, Mills served on several committees for book selections, helped write policy and served as a liaison with the school's superintendent. She has worked with teachers and school board members in many capacities. To stay abreast of the latest trends and issues in education, Mills is a member of the Alabama Association of Educators, the National Council of Teachers of English, and Phi Delta Kappa International, a professional organization for educators.

"I understand the concerns when teachers and principals ask for new textbooks, equipment, bus routes changes, facility improvements and adequate personnel because of my experience as a

teacher," Mills said.

"My goal is to go into the schools and visit the classrooms to meet the students, teachers and support personnel. I want to know what is going on in the schools, and use that knowledge to participate in school board decisions to continue academic excellence in our school system and to be a viable member of the board," Mills said.

"I want to make sure all children in the school system excel without leaving any child behind," said Nash-Stevenson. "I want all children to have the same opportunities."

"Serving on the board is a lot of fun, but we work hard, too," Nash-Stevenson said. "At board meetings, I try to represent the parents of all the children. If I do not have personal knowledge of a specific situation — such as childcare, single parent homes or underprivileged children — I know someone who does. And I can make sure their voices are heard."

The writer, employed by ASRI, is the Marshall Star editor.

Center Announcements

FIRST Robotics needs volunteers

The Marshall Center is sponsoring four teams in the 2002 For Inspiration and Recognition of Science and Technology (FIRST) Robotics program. Volunteers are needed. This program teams high school students with corporations, government organizations and universities to build a robot that will compete at both regional and national competitions. There will be an informational meeting for volunteers at 1 p.m., Sept. 13, in Bldg. 4200, room 211. For more information, call Vicki Smith at 544-1798 or Barbara Long at 544-0774.

Upcoming Classes

System safety training

System safety fundamental training will be held Sept. 24-26. Register online through the Safety Health and Environmental page located off "Inside Marshall."

Physics seminar

Alabama A&M University is sponsoring a seminar on new highly sensitive semiconductor materials for IR region: CdTe and CdHgTe crystals doped with 3d elements at 1 p.m. Sept. 6 in Chambers Hall, room 140 VMC. Professor Yuriy P. Gnatenko of the Institute of Physics of National Academy of Sciences, Kiev, Ukraine, will speak.

Imaging telescopes workshop

A workshop on innovative ideas and alternatives to imaging telescopes will be held Sept. 27-28 at the Knight Center, Alabama A&M University, in Huntsville. Seating is limited. The workshop costs \$100. To reserve a seat, call H. John Caulfield at (256) 851-5844 or Daryush Ila at (256) 851-5866, or send an e-mail to: john.Caulfield@cim.aamu.edu or ila@cim.aamu.edu

Resume building briefings

The following NASA STARS Process and Employee Resume Building Briefings have been scheduled for Septem-

ber: 9:30-11:30 a.m., Sept. 10, Bldg. 4200, room G13E; 8:30-10:30 a.m., Sept. 18, Bldg. 4203, room B303; and 8:30-10:30 a.m., Sept. 25, Bldg. 4203, room B303. For details, call 544-7560.

Clubs and Meetings

NARFE meets

Larry Robey, the Madison County health officer, will speak to the National Association of Retired Federal Employees (NARFE) at its monthly meeting at 9:30 a.m. Saturday at the Senior Center on Drake Avenue. Robey will discuss what seniors need to do to improve their health and to avoid contagious illnesses. For more information, call 881-4944 or 881-3168.

Facilities Office breakfast

Facilities Office retirees will meet for breakfast at 8 a.m. Sept. 11 at the Shoney's on University Drive and Memorial Parkway. For more information, call Carl Gates at 232-2950.

Sports

Fishing tournament

The next fishing tournament will be Sept. 15 out of the Decatur River Walk Marina. A pre-tournament meeting will be held at noon Sept. 13 at the Marshall picnic area. Interested parties should call Don McQueen at 544-9073, Charlie Nola at 544-6367, or John Pea at 544-8437.

MARS Golf League

The final golf tournament — a 4-person scramble — will be held Sept. 22. The tournament will be held at Gunter's Landing in Guntersville. Teams will be formed by the tournament director from the pool of entries. Cost is \$44 due at time of entry, which includes cart and \$5 entry fee.

Tennis tournament

The next MARS tennis tournament will be a closed HI-LO on Sept. 8. To participate, call Ronda Moyers at 544-6809 or send an e-mail to: ronda.moyers@msfc.nasa.gov.

Miscellaneous

Dance lessons

Dance lessons resume in September. Fox Trot and Tango lessons will be taught the first four Mondays after the Labor Day weekend — Sept. 10, 17, 24, and Oct. 1 — at Saint Stephen's Episcopal Church on Whitesburg Drive, second building north of Lily Flag Road. Intermediate lessons will be from 7-8 p.m., and beginners from 8-9 p.m. Rick Jones of the Rocket City Dance Studio since 1993, and certified by the National Dance Council of America, will be the instructor. Cost is \$6 per person per class. For more information, call Woody Bombara at 650-0200.

Redstone Arsenal

Retiree Activity Day

Redstone Arsenal is holding a Retiree Activity Day Sept. 8 at the Sparkman Center Auditorium, Bldg. 5304. For more information, call Tanzella Jackson at 842-2721.

Thank you

Thanks to all of you who called, visited, sent e-mails, cards, and, most of all, for your prayers during the illness and death of my husband and Michael's father, Billy Wayne Hall. All your kind expressions of sympathy meant so much to us. We also appreciate all the memorial donations made in Billy's memory.

— Jeanette Hall, Marshall retiree, and Michael Hall

Employee Ads

Miscellaneous

- ★ Four tickets, Bama versus TEP/ Birmingham; would negotiate trade for two Bama versus Southern Mississippi. 931-438-0476
- ★ Paraclype antenna, 12" diameter, make offer; solid oak home entertainment center, 71"Lx21"Wx30"H, \$50. 881-6040
- ★ Rival electric food-slicer, \$40; Panasonic stereo, phono, cassette, radio, Technics CD, speakers, portable stand, \$50. 881-7953
- ★ Couch and loveseat, country blue floral print, \$150; Sunbeam gas grill w/side burner, \$75. 971-9710
- ★ Four Enkei 6-lug 15x17.5 wheels with 2/3 life remaining, Michelin 50x950-R15-M/S tires, \$600 firm. 828-9861
- ★ Women's gold Gucci watch w/warranty and box, \$600. 461-0870/Jennifer
- ★ 1995 Yamaha 760 jet-ski w/trailer and accessories, \$3,500. (256) 837-6274/ leave message
- ★ Snapper riding lawn mower, \$225 obo. 828-3896
- ★ Antique SMC typewriter, \$100. Sony VAIO desktop computer, monitor, printer, scanner, \$700. 722-9483
- ★ Four Aerosmith tickets, 9/19, Nashville, will split up tickets, \$350 for 4, obo. 353-6358
- ★ 2000 Suzuki Katana 750, blue-gray, 1K miles, garage kept, \$6,500. 882-6859
- ★ Microtek E6 flatbed scanner with SCSI card, terminator, cable, \$50. 830-9156
- ★ Canoe, Old Town Discovery 169, 16'9" long, flat bottom, good initial stability, asking \$400. 464-9295
- ★ Dell 17" monitor, \$75; Gateway 2000 computer, Model E-4200 MHz4Gig

- HDD, Ethernet, sound card, USB w/ 17" monitor, keyboard, mouse, \$300. 882-0469/337-2084
- ★ Crib mattress, \$20; twin box spring, \$25; Lion King comforter set, twin, \$20. 776-9165
- ★ Husky brand truck-bed toolbox for full-size truck, silver diamond plate and deep, \$120. (256) 216-8868
- ★ PSE MAXIS F4 compound bow, draw length 29", fully rigged, new, \$300. 880-3337
- ★ Two sofas, \$125 each; three chairs, \$75 each; old sewing machine, \$50; console stereo, \$100. (256) 881-4654
- ★ Electric lift recliner for the elderly or handicapped, used two months, \$575. (256) 233-2456
- ★ Long red formal evening gown, halter, size 5, \$75; white wedding dress w/train and veil, size 6, \$200. 881-8674
- ★ Word processor, monitor, needs ribbon, \$50; Sega Genesis, two games, \$20. 604-9663
- ★ Dell 333 MHz PII, CD, 3.5" floppy, 4 GV, 17" monitor, keyboard, Intellimouse, \$250 obo. 351-6996
- ★ 386SX computer, keyboard and monitor, \$25. 830-1905
- ★ Bally 4-play pinball machine, theme "Space Time," \$350. 837-7916
- ★ GE refrigerator, \$100. 534-4968
- ★ California king-size (72"Wx84"L) four-poster bed w/6 drawers in base and Simmons Beautyrest mattress, \$175. 533-5942
- ★ Plate glass, 1/4"x40"x63" for table, desk, coffee table. 881-3661

Vehicles

- ★ 1993 Dodge Grand Caravan SE, one-owner, many new parts, service records

- available, \$4,600 obo. 895-9520
- ★ 1999 Chevy blazer 4-door, low miles, \$14,000. 776-4624
- ★ 1991 Pontiac Grand Am, black w/gray interior, 5-speed, PS/PB/PW, AM/FM/ cassette, 104K miles, good tires, \$1,800 obo. 461-6352
- ★ 1998 Rodeo, PW/PB/PS/PL, 4-WD, auto, cruise, AM/FM/cassette, 55K miles, 16" wheels, side-steps, one-owner, \$12,500 obo. 880-6364
- ★ 1985 Accord LX, 4-door, 167K miles, a/c, PS/PB/PW/PD, all records, well-maintained, \$1,195. 830-6553
- ★ 1985 Dodge Caravan, high miles, needs work, \$950 obo. 233-4580
- ★ 2000 Chrysler Cirrus LXi, 30K miles, leather, CD changer, alloy wheels, some factory warranty remaining, \$13,000. (256) 931-4678/571-3622
- ★ 1996 Ford Windstar GL, 83K miles, dual air, AM/FM cassette, \$8,000. (256) 891-2564
- ★ 1999 Pontiac Grand-AM, gray, automatic, 41K miles, \$10,000 obo. 880-6786/694-1951
- ★ 1990 Chevrolet 454SS, full-custom, 12" subs (6), CD changer, 250-amp alternator, TV/VCR, rearview camera, 54K miles, \$15,000. 837-6109

Wanted

- ★ To rent RV or camper for 2 adults, non-smokers, no kids, no pets, 1st & 2nd week in October. 880-6146
- ★ Tuba in playing condition. 534-8186

Found

- ★ Eyeglasses with case, wire frame; sunglasses; prescription wire frame glasses, Bldg. 4200 and 4312 areas. Call 544-4758 to claim/identify

MARSHALL STAR

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